AMENDMENTS TO THE CLAIMS

Please amend claims 1, 5, 10, 11 (i.e., the version of claim 11 previously submitted in *independent* form, claim 11 (i.e., the version of claim 11 previously submitted in *dependent* form), 12-13, 15-16 and 18-25, and add new claim 26. No new matter is believed to be introduced as a result of the aforementioned claim amendments and new claim. The following list of claims replaces all previous claim listings in this case.

1. **(Currently amended)** An active layer in a semiconductor light emitting device, the active layer comprising at least one quantum well, the quantum well including layers of a semiconductor alloy under mechanical stress interspersed with layers of stabilizing material.

2. **(Original)** The invention of claim 1 wherein the device is one of a vertical cavity laser, an edge emitting laser, or a light emitting diode.

3. **(Original)** The invention of claim 1 wherein the layers of stabilizing material are nearly lattice matched to substrate material used in the device, wherein the nearly lattice matched layers of stabilizing material serve as mechanical stabilizers for the layers of semiconductor alloy under mechanical stress to prevent them from relaxing.

4. **(Original)** The invention of claim 3 wherein the device is one of a vertical cavity laser, an edge emitting laser, or a light emitting diode.

5. **(Currently amended)** The ~~semiconductor laser according to~~ invention of claim 3, wherein the active layer comprises a plurality of quantum wells.

6. **(Original)** The invention of claim 5, wherein the substrate type material comprises GaAs.

7. **(Original)** The invention of claim 5, wherein the layers of semiconductor alloy includes one of InGaAs, GaAsSb, or InGaAsSb.

8. **(Original)** The invention of claim 5, wherein the plurality of quantum wells are about 80Å - 250Å thick.

9. **(Original)** The invention of claim 5, wherein the layers of stabilizing material are about 9.5Å - 11.2Å thick.

10. **(Currently amended)** The ~~semiconductor laser according to~~ invention of claim 5, wherein the layers of semiconductor alloy are about 24Å thick

11. **(Currently amended)** A semiconductor light emitting device having an active layer comprised of more than one quantum well, each quantum well including layers of a semiconductor alloy under mechanical stress interspersed with layers of a stabilizing material, and a substrate type material being lattice mismatched to the semiconductor alloy in a first direction and lattice mismatched to the stabilizing material in the opposite the direction, wherein the layers of stabilizing material being lattice mismatched serve as mechanical stabilizers for the semiconductor alloy layers to prevent the semiconductor alloy layers from relaxing.

(Currently amended) [[11.]] 12. The invention of claim [[10]] 11 wherein the semiconductor light emitting device is one of a vertical cavity laser, an edge emitting laser, or a light emitting diode.

(Currently amended) [[12.]] 13. The invention of claim [[11]] 12, wherein the substrate type material comprises GaAs.

(Currently amended) [[13.]] 14. The ~~semiconductor laser according to~~ invention of claim [[11]] 12, wherein the semiconductor alloy is comprised of one of InGaAs, GaAsSb, or InGaAsSb.

15. **(Currently amended)** The ~~semiconductor laser according to~~ invention of claim [[11]] 12, wherein the quantum wells are about 80Å - 250Å thick.

16. **(Currently amended)** The ~~semiconductor laser according to~~ invention of claim [[11]] 12, wherein the quantum well mechanical stabilizer layers are about 9.5Å - 11.2Å thick.

(Currently Amended) [[18.]] 17. The ~~semiconductor laser according to~~ invention of claim [[11]] 12, wherein the alloy layers are about 24Å thick.

(Currently Amended) [[19.]] 18. An active layer in a semiconductor laser comprising:

at least one quantum well, the at least one quantum well including semiconductor alloy layers under mechanical stress and stabilizing material layers, wherein the stabilizing material layers are interspersed between the semiconductor alloy layers and serve as mechanical stabilizers for the semiconductor alloy layers;

barrier layers sandwiching the active layer; and mirror layers disposed outside of the barrier layers.

(Currently Amended) [[20.]] 19. The invention of claim [[20]] 18 wherein the semiconductor laser is one of a vertical cavity laser, an edge emitting laser, or a light emitting diode.

(Currently Amended) [[21.]] 20. The invention of claim [[19]] 18, wherein the semiconductor alloy layers are comprised of one of InGaAs, GaAsSb, or InGaAsSb, the substrate is comprised of GaAs.

(Currently Amended) [[22.]] 21. The invention of claim [[21]] 20, wherein the ~~first and second~~ mirror layers are comprised of AlGaAs.

(Currently Amended) [[23.]] 22. The ~~semiconductor laser according to~~ invention of claim [[22]] 21, wherein the quantum wells are about 80Å - 250Å thick.

(Currently Amended) [[24.]] 23. The ~~semiconductor laser according to~~ invention of claim [[22]] 21, wherein the quantum well mechanical stabilizer layers are about 9.5Å - 11.2Å thick.

(Currently Amended) [[25.]] 24. The ~~semiconductor laser according to~~ invention of claim [[22]] 21, wherein the alloy layers are about 24Å thick.

26. **(New)** The invention of claim 1, wherein each layer of stabilization material comprises GaAs.